

Appendix C

Act, Regulations and Code

The following sections of the Act, Regulation, and Code were relevant to the incident investigation.

SAFETY STANDARDS ACT

DEFINITIONS

"alteration" includes adding to, replacement and removal;

"incident" means an event occurring as a result of regulated work, or the testing, use or operation of a regulated product, that

(a) causes death, personal injury or damage to property, or

(b) creates a risk of personal injury or damage to property;

"inspect" includes investigate, monitor and audit;

"licensed contractor" means a person who is licensed under section 23 as a licensed contractor to do regulated work in one or more disciplines specified in the licence;

"operating permit" means a permit issued by a safety officer under section 28;

"regulated product" means a product or thing referred to in section 2 (1) (b), and if specified in the regulations, a part of that product or thing;

"regulated work" means

(a) the assembly, manufacture, construction, installation, operation, testing, maintenance or repair of a regulated product, and

(b) the alteration of a regulated product

Duties and entitlements of a licensed contractor

24 (1) A contractor is entitled to engage in the regulated work for which the contractor is licensed.

(2) A licensed contractor must not

(a) manage or do regulated work that is

(i) outside the scope of the licence,

(ii) contrary to any term or condition of the licence, or

(iii) contrary to any term or condition imposed by the regulations on the use of the licence, or

(b) permit regulated work to be undertaken by persons under the control of the licensed contractor if they are not authorized under this Act.

(3) A licensed contractor must

(a) maintain current knowledge of this Act, relevant regulations, relevant directives, relevant safety orders and any other relevant material that the minister makes publicly available, and

(b) ensure that individuals who do regulated work for the licensed contractor maintain similar current knowledge.

Operating permits

28 (1) In accordance with the regulations, a safety officer may issue an operating permit that allows the use of a regulated product listed in section 2 (1) (b) for one or more disciplines.

(2) A permit issued under subsection (1) is subject to terms and conditions provided for under the regulations or attached to the permit by a safety officer.

(3) An operating permit may be issued for a term up to 5 years.

(4) A person who holds a permit issued under this section must comply with the terms and conditions of the permit.

(5) A person who holds an operating permit must ensure that individuals who do regulated work under the permit maintain current knowledge of this Act, relevant regulations, relevant directives, relevant safety orders and any other relevant material that the minister makes publicly available.

(6) A person who holds an operating permit must not allow regulated work to be undertaken by persons under the permit unless they are authorized under this Act.

Reporting incidents

36 (1) As soon as practicable after an incident occurs, the person in charge of the regulated product or regulated work, the owner of the regulated product and any other person specified by regulation are responsible for reporting the incident, in accordance with the regulations, to the appropriate safety manager.

(2) A person must not remove, disturb or interfere with anything in, on or about the place where the incident occurred except for the following:

(a) as is necessary to rescue a person, to prevent personal injury or death or to protect property;

(b) in accordance with the regulations;

(c) in accordance with the directions of a safety officer or safety manager.

Investigating incidents

37 (1) Whether or not the incident was reported, a safety officer may investigate an incident.

(2) A provincial safety manager may appoint persons to assist in the investigation of an incident.

(3) A person appointed under subsection (2), for the purposes of assisting in the investigation,

(a) has all the powers of a safety officer under section 18 (1) (c) to (n) and (2), and

(b) must report on the investigation to the provincial safety manager who appointed the person.

Alteration of regulated products

68 (1) A person must not alter a regulated product if the alteration would or is likely to

(a) result in the product ceasing to meet the requirements of the regulations, or

(b) result in the product ceasing to meet the standards

- (i) required to be met by the certification agency, or any successor of that agency, that authorized the use of a certification mark for the regulated product, or
 - (ii) applied to that regulated product by a provincial safety manager in issuing an approval under section 10.
- (2) If an alteration to a regulated product is permitted under subsection (1), a person must not do the alteration unless that person is
- (a) a licensed contractor,
 - (b) authorized to do so under this Act, or
 - (c) approved by the appropriate safety manager if the safety manager is satisfied that the person is capable of safely doing the alteration.

Safety Standards General Regulation

Responsibilities of operating permit holder

19 The holder of an operating permit must do all of the following:

- (a) if required under the permit, maintain a log of work performed under the permit;
- (b) in the case of a multi-year operating permit, pay any required instalments of the permit fee;
- (c) submit any required declaration confirming compliance with the Act;

Certificate of inspection

20 (1) This section applies to an inspection performed by a safety officer.

- (2) On completion of an inspection by a safety officer of regulated work or a regulated product, the safety officer must issue a certificate of inspection to the permit holder.
- (3) If the certificate under subsection (2) identifies any non-compliances with respect to the regulated work or regulated product, the permit holder must correct the non-compliances and notify the safety officer that the corrections have been completed.
- (4) Issuance of a certificate of inspection does not prevent a safety officer from re-inspecting regulated work.

Duty to report incidents to the appropriate safety manager

34 (1) If any of the following persons attend an incident, the person has a duty to report it to the appropriate safety manager:

- (a) a holder of a permit to perform regulated work;
 - (b) a person who is authorized to perform or performs regulated work;
 - (c) a person who is authorized to operate or operates a regulated product or system;
 - (d) an officer or employee of a utility.
- (2) The owner of a plant must report an incident to the appropriate safety manager.

Elevating Devices Safety Regulation

DEFINITIONS

"amusement ride" means a combination of components that carries, conveys or directs an individual over or through a fixed course or within a defined area for the purpose of amusement or entertainment, and includes a recreational railway;

"elevating device" means any apparatus, mechanism or device that is installed or positioned for the purpose of raising, lowering, moving, carrying, conveying or directing persons, materials or goods and includes any of the following:

(b)an amusement ride;

"attendant" means an individual involved in marshalling passengers, cars or carriers, in assisting or instructing patrons or in other safety related operating duties;

"owner" means a person who has charge of an elevating device as owner or agent;

Who may do regulated work in respect of amusement rides

3 An individual must not do regulated work in respect of amusement rides unless the individual

(a)is a licensed contractor, or

(b)is employed by a licensed contractor for the purpose of doing regulated work in respect of amusement rides.

Classes of contractor's licence

6 The following classes of elevating device contractor's licences with their corresponding restrictions are established:

(f)Class AM — restricted to designing, constructing, installing, altering, operating, repairing, maintaining or testing of amusement rides, other than recreational railways;

Part 4 — Incidents - in respect of all elevating devices

20 Unless otherwise specified by a provincial safety manager, an elevating device that has been involved in an incident must be shut down immediately and must not be repaired or returned to service without the permission of a safety officer.

[am. B.C. Regs. 170/2018, s. (a) (ii); 184/2019, App. 2, s. 12.]

Changes and alterations to amusement rides

26.1 (1)An owner who proposes to make a change to the design or specifications of an amusement ride must ensure that the change meets the requirements of the Act, the regulations and the manufacturer's specifications.

(2)The following alterations must be considered to be a major alteration under the Act and a technical information package must be submitted to the provincial safety manager:

(a)increasing the manufacturer's maximum capacity or speed;

(b)changing the load bearing structure of an amusement ride in a manner that would reduce the original strength of the structure;

Application of this regulation to amusement rides and passenger ropeways

53 (1) In order to operate an amusement ride or passenger ropeway an individual is not required to have been trained in a training program acceptable to a provincial safety manager until November 1, 2004.

Schedule

Interpreting codes and standards

2 For the purposes of interpretation of the codes and standards referred to in this Schedule:

"flume ride" means an amusement ride using water as a means of conveyance;

"waterslide" means any flume ride in which a transporter is not used.

Codes and standards adopted

3

(f) CSA International Z267-00, "Safety Code for Amusement Rides and Devices", except that Appendices A and C are mandatory.

CSA Z-267 – 83 (Code at the time of Installation) – Design Requirements Apply

10. Design

10.1.1 Manufacturer's Basic Data. When required by the regulatory authority stress analysis and other data pertinent to the design, structure, mechanical and electrical equipment, factors of safety, or performance characteristics shall be made available from the manufacturer as soon as practicable. Data shall include forces generated by acceleration, deceleration, centrifugal action, kinetic or other forces either of constant, reversible, or eccentric.

10.1.3 Erection, Operating, and Maintenance Instructions

10.1.3.1 Every amusement ride at the time of manufacture shall be provided with a service manual covering:

a) Normal erection, transportation, and dismantling procedures;

b) Operating procedures;

c) Maintenance and lubrication procedures, including the correct type and grade of hydraulic oil.

10.15.2 Slide Rides

10.15.2.1 The surface of the slide and guards shall be uniformly smooth and free from splinters.

10.15.2.2 The outer side guards shall extend high enough so as to minimize the possibility of a rider becoming entangled with them or to move sideways off the ride proper.

CSA Z267-00 (Current adopted code) – Operational Requirements Apply

6.2.2.2 Owner/Operator's Responsibility

6.2.2.2.1

Owner/operators of amusement rides or devices shall have an inspection program consistent with the inspections required by Clauses 7 and 8.

6.2.2.2.2

The owner/operator shall maintain inspection documents in the ride or device file in accordance with the procedures outlined in Clauses 7 and 8.

6.2.2.2.3

Owner/operators of an amusement ride or device shall promptly notify the manufacturer of an incident, failure, or malfunction that, in their judgment, seriously affects the continued proper operation of the ride or device and that is information of which the manufacturer should be aware.

7. Maintenance Procedures

7.1 Manufacturer's Responsibility

7.1.1 General

The manufacturer of an amusement ride or device shall provide, with delivery of each ride or device, documented maintenance instructions. These instructions shall include, but not be limited to, the information provided in Clauses 7.1 .2-7.1 .11 .

7.1.2 General Information

The manufacturer shall provide the following general information:

- (a) a description of the ride or device operation, including the function and operation of its major components;
- (b) a description of the designed motion(s) of the ride or device during operation;
- (c) a description of the recommended procedures for installation, setup, disassembly, and transportation of the amusement ride or device;
- (d) a description of recommended assembly and disassembly techniques and procedures pertaining to specific components, as deemed necessary by the manufacturer;
- (e) recommended restrictions and special procedures, lubricants, materials, or equipment that may be necessary because of environmental conditions; and
- (f) other recommendations known to the manufacturer and specific to certain serial-numbered rides or devices.

7.1.4 Daily Inspection

The manufacturer shall provide a description of the recommended daily pre-opening inspection to be performed, an identification of special care areas, and recommended procedures for inspection and maintenance of these areas.

7.1.5 Maintenance Inspection and Testing

The manufacturer shall provide a description, including frequency, of recommended maintenance inspections and testing, other than the daily pre-opening inspection, including

- (a) recommended wear limits or tolerances, where deemed necessary by the manufacturer;
- (b) recommended operational tests, along with minimum intervals for these tests to be performed, that will allow the owner/operator of the ride or device to determine whether a given ride or device is operating within recommended prescribed operational limits;
- (c) where applicable, recommended nondestructive testing, along with appropriate acceptance criteria, including suggested frequency and the special parts or areas to be tested; and
- (d) recommended tests and procedures for monitoring and maintaining water quality in an amusement ride or device in which the rider can reasonably be expected to ingest or contact water volume sufficient to pose a substantial health risk.

7.2 Recommended Tests

Recommended tests shall meet the following criteria:

- (a) The tests shall have been performed satisfactorily by the manufacturer prior to the sale of the amusement ride or device.
- (b) The amusement ride or device, or element, can reasonably be expected to pass the test during the expected life of the amusement ride or device, or element, assuming recommended maintenance and operating procedures have been followed.
- (c) The owner/operator can reasonably be expected to be competent to perform, or cause to be performed, any test recommended.

7.S Owner/Operator's Responsibility

7.S.1 Manufacturer's Instructions

Each owner/operator of an amusement ride or device shall read and become familiar with the contents of the manufacturer's maintenance instructions and specifications when received.

7.S.2 Program of Maintenance, Testing, and Inspection

Based on the manufacturer's recommendations, each owner/operator shall implement a program of maintenance, testing, and inspection providing for the duties and responsibilities necessary in the care of each amusement ride or device. This program of maintenance shall include a checklist to be made available to each person performing the regularly scheduled maintenance on each ride or device. The owner/operator's checklist (on a ride-by-ride basis) shall include, but not be limited to

- (a) a description of preventive maintenance assignments to be performed;
- (b) a description of inspections to be performed;
- (c) special safety instructions, where applicable; and
- (d) any additional recommendations of the owner/operator.

7.S.3 Training

The owner/operator of the amusement ride or device shall provide training for each person performing the regularly scheduled maintenance on the ride or device. This training shall include, but not be limited to, the following:

- (a) instruction on inspection and preventive maintenance procedures;
- (b) instruction on the specific duties of the assigned position;
- (c) instruction on general safety procedures;
- (d) demonstration of the physical performance of the assigned regularly scheduled duties and inspections;
- (e) supervised observation of the maintenance person's physical performance of assigned regularly scheduled duties and inspections; and
- (f) additional instructions deemed necessary by the owner/operator.

7.S.4 Inspection

7.S.4.1 Pre-opening Inspection

Before the ride or device carries passengers, the owner/operator shall conduct, or cause to be conducted, a daily documented and signed pre-opening inspection, based on provided instructions, to ensure the proper operation of the ride or device. The inspection program shall include, but not be limited to, the following:

- (a) inspection of all passenger-carrying devices, including restraint devices and latches;
- (b) visual inspection of entrances, exits, stairways, and ramps;
- (c) functional test of all communication equipment necessary for the operation of the ride or device;
- (d) inspection or test of all automatic and manual safety devices;
- (e) inspection or test of the brakes, including service brakes, emergency brakes, parking brakes, and backstops;
- (f) visual inspection of all fencing, guarding, and barricades;
- (g) visual inspection of the ride structure; and
- (h) operation of the ride or device for a minimum of one complete operating cycle.

Annex A Waterslides (Note: This Appendix is not a mandatory part of this Standard but is written in mandatory language to accommodate its adoption by anyone wishing to do so.)

Daily inspections shall be carried out on each water slide, to ensure the safe operation of the water slide

- (a) before the water is circulated, to ensure that no safety hazard exists; and

(b) with the water circulating, to ensure that the pumping and filtering equipment are operating correctly, and that there is

(i) correct water level in the splashdown area; and

(ii) sufficient water flowing in the channels of the water slide.

A2.5

A log book shall be maintained daily, reporting all inspections, tests, and records of operation, maintenance, and incidents or accidents, with entries signed by the person responsible for conducting or reporting the named activities, or by that person's supervisor, to record

(a) the results of each inspection and test carried out on the water slide;

(b) daily operating data, including information related to any incidents or accidents that may involve the water slide; and

(c) maintenance procedures performed, including all data concerning modifications to the water slide.

A2.8

The owner/operator shall maintain all surfaces of the channel section of the water slide to be free of cracks or sharp edges, and the joints between the sections of the channel shall be maintained flush.